

# TAV SKOPJE AIRPORT DEPLOYS MOTOTRBO™ CAPACITY MAX

## TRUNKED RADIO SYSTEM



### FOR INCREASED CAPACITY, FUNCTIONALITY AND RELIABLE, SECURE COMMUNICATIONS

TAV Airports Holding operates ten airports across three continents in Turkey, Tunisia, Latvia, Croatia, Georgia, Saudi Arabia and North Macedonia. TAV undertook operational management of Skopje Airport in 2010 and holds the rights to operate Skopje Airport until March 2030. Skopje is now the larger and busier of the two international airports in North Macedonia and was presented with the prestigious Airport Service Quality award in 2019; the airport has also regularly featured in Skytrax's World Airport list of Top 10 Airports in Eastern Europe. Skopje already serves well over 2 million passengers annually and this number is only set to grow, with Wizz Air currently being the number one carrier.

### MOTOROLA SOLUTIONS PRODUCTS

- MOTOTRBO Capacity Max
- Capacity Max Advantage Mode Licences
- 4 x MOTOTRBO SLR 5500 repeaters
- 200 x MOTOTRBO DP4801 digital portable two-way radios
- 50 x MOTOTRBO DM4601 mobile two-way radios
- Single slot chargers
- NiMH and IMPRES™ Li-ion batteries
- SmartPTT PLUS
- MOTOTRBO Radio Management

### USAGE

- Data and voice communications, including private, group, emergency and priority calls
- Call recording
- Job ticketing and event logging

#### BENEFICIARY INFO

TAV SKOPJE AIRPORT

#### INDUSTRY

AVIATION

#### LOCATION

MACEDONIA

#### LOCAL PARTNER

AIRADIO NET S.L.  
GIZA CO. ELEKTRONIKA

## CHALLENGE

TAV Skopje Airport wanted to upgrade from its outdated Motorola Solutions analogue trunked radio system to the latest digital technology, for increased usage and channel capacity, enhanced functionality and clearer, faster, more reliable communications. The migration from analogue to digital needed to be smooth, with no loss of service. Locally based radio communications engineering company Giza Co. Elektronika has been supporting clients throughout Macedonia for over 25 years and has a close relationship with Motorola Solutions partner Airadio Net S.L. (a division of American International Radio (AIR), Inc.) who has a strong presence in the region. Giza has been contracted on a long-term basis to maintain the infrastructure at the airport. During this time Giza established a very strong partnership with Skopje Airport, based on trust and extensive experience and knowledge of its infrastructure and requirements. Skopje Airport also knows and trusts the Motorola Solutions brand as the company has been responsive and flexible in the past; and so, despite strong interest from competitors, following a detailed review, it was happy to follow Giza's and Airadio's recommendation of an upgrade to a MOTOTRBO Capacity Max (DMR Tier III) single site trunked radio system for a best-in-class, long-term solution. Skopje Airport also wanted to maintain a trunked system for the security it can offer, with layers of redundancy and voice, data and control traffic within the IP network all being encrypted and all radios securely authenticated.

"AIRADIO AND GIZA HAVE WORKED TOGETHER TO ENSURE THAT THE DEPLOYMENT OF OUR MOTOTRBO CAPACITY MAX RADIO NETWORK FROM MOTOROLA SOLUTIONS HAS BEEN A TOTAL SUCCESS. USER FEEDBACK HAS BEEN EXCELLENT AND THE SYSTEM IS RELIABLE, EASY TO OPERATE AND HAS SIGNIFICANTLY INCREASED THE CAPACITY OF OUR RADIO COMMUNICATIONS. MOREOVER, WE KNOW WE CAN EXPAND THE SYSTEM AS THE AIRPORT DEVELOPS IN THE FUTURE, WITH THE OPTION TO UTILISE ALL THE ENHANCED FUNCTIONALITY A DIGITAL RADIO SYSTEM HAS TO OFFER."

Sheval Sinani, Chief of Electrical Installation, TAV Skopje Airport

## SOLUTIONS IMPLEMENTED BY AIR

Aware of the immediate need for system expansion, Motorola Solutions supplied MOTOTRBO radios with a pre-installed MPT1327 option board prior to switchover. These could be used on both the existing analogue trunked system and on the new MOTOTRBO Capacity Max system; and, once the new system was ready to install, Airadio managed the system integration, programming and testing at Giza's premises. Then, working in close collaboration, they gradually deployed the new architecture, with no loss of service. They ran full site acceptance tests and training and, in the name of sustainability, the components of the analogue system, which are still fully operational, will be reused at the smaller TAV Ohrid Airport in south-west Macedonia. Giza is supplying the ongoing maintenance for both systems.

The new infrastructure comprises a Capacity Max System Server and four SLR 5500 repeaters with Capacity Max Advantage licences to give functionality over and above the DMR Tier III standard and Skopje Airport has equipped its teams with around 200

MOTOTRBO DP4801 digital portable two-way radios and 50 MOTOTRBO DM4601 mobile two-way radios. Capacity Max and the MOTOTRBO radio management software give Skopje Airport a centralised overview and control of the radio traffic, devices and talk groups, of which there are currently 45 at the airport; these include duty managers, ground handling, flight operations, chief leaders, cleaners, push back teams, catering, VIP, security, emergency services, technical department, cargo, air traffic control and fuelling. Currently, 80% of communications are voice and 20% data.

The system was deployed in conjunction with the SmartPTT PLUS control room solution, for central voice dispatch, text messages, fleet administration, alarm and lone worker, email, job ticketing, event logging and communication recording. Skopje Airport is also aware of the optional features the software can offer such as GPS tracking and telephone interconnect, which it could deploy in the future.



## BENEFITS

Skopje Airport has doubled its channel capacity, whilst maintaining the same number of repeaters and frequencies. This ensures a 100% first time successful call rate, despite a significant upsurge in system usage. Coverage has increased from 80% of the airport site to 100% coverage.

Radio users, meanwhile, who were initially concerned about the change, have since strongly praised the improved audio clarity, the reliability of the system, the ease of use of the radios, including for setting up a range of call modes, the extended battery life and the speed of data transfer.

The management team is also benefiting from Motorola Solutions Capacity Max's added security, resilience, features and functionality, which allows them to send out work orders, record calls and access full communication logs and records. Ultimately, this has led to great efficiency and productivity gains and the Capacity Max system will continue to be developed and expanded, to meet Skopje Airport's growing needs. Indeed, TAV may also consider allowing airlines to access the Skopje network in the future, whilst plans are being discussed to install Capacity Max at another airport in North Macedonia.

- More reliable, clearer, faster voice and data communications across the entire airport site (previously 80% coverage, now 100%)
  - Smooth upgrade and transition from analogue to digital
  - Increased capacity from three to seven traffic channels with the same number of repeaters and frequencies; missed calls eliminated
  - Enhanced functionality, such as job ticketing, with future capabilities being investigated
  - Ease of ongoing management of talk groups, recordings and radio traffic monitoring with MOTOTRBO radio management software
- Improved system security against cyber threats, for example
  - Better incident traceability with event logging and call recording
  - Excellent end user feedback including: increased efficiency, speed of operation and communications, ease of use and excellent battery life extending over 24 hours



### ABOUT AIR

AIR is a premier technology company distributing wireless products and solutions for an array of vertical markets. American International Radio is recognized as the Largest Motorola Distributor in EMEA.

We are a System Integrator providing Professional Communication Solutions by developing software and hardware, customized Mobility & IT applications and solutions, and enhancing the functionality of standard products.

Our solutions offer modular support, flexibility with architecture, easy data migration, multi-frequency, multi-system Interoperability with various platforms, enhanced spectrum efficiency, integrated privacy and are scalable from single site to nationwide systems.